

REMARKS/ARGUMENTS

Claims 1-4 and 6-12 are pending. Favorable reconsideration is respectfully requested.

The rejection under 35 U.S.C. §102(b) over Bockmann et al. is respectfully traversed. The claimed bacteria have the ability to produce and accumulate an amino acid in a medium when the bacterium is cultured in the medium. See Claim 4.

Bockmann et al. describe *E. coli* JM109 harboring plasmid pJMBL102 which contains a csc regulon. However, that reference does not describe that the bacterium accumulates an amino acid in the medium. Therefore, the reference fails to describe the claimed bacterium.

In addition, the bacterium of the present invention can produce an amino acid in higher yield when cultivated in sucrose-containing medium as compared to with a yield when cultivated in a medium containing glucose in place of sucrose. See Tables 4 and 7 of the present application. This effect is not predictable from Bockmann et al. Accordingly, the claimed bacterium is not suggested by the reference.

Based on the foregoing, the claims are not anticipated by or obvious over Bockmann et al. Withdrawal of this ground of rejection is respectfully requested.

The rejection of the claims under 35 U.S.C. §112, first paragraph (written description), is respectfully traversed.

In Claim 4, the “non-PTS genes” have been specified as those comprising at least genes coding for a permease, invertase, and fructokinase. One skilled in the art can understand the term “non-PTS genes” as used in the present invention and obtain non-PTS genes other than those described in the specification and in Bockmann et al. To document this point, Applicants submit herewith copies of scientific articles describing sucrose non-PTS of bacteria other than *E. coli* EC3132 (Bockmann et al.).

Sahin-Toth et al. (Can. J. Microbiol., 1999, 45:5, 418-422) describe cloning, sequence and expression of *cscA* invertase from *E. coli* B-62. Slee et al. (Biochim. Biophys. Acta, 1982, 692:3, 415-424) and Jacobson et al. (Biochimie, 1989, 71, 997-1004) describe sucrose non-PTS of *Streptococcus mutans*. Keevil et al. (Arch. Oral Biol., 1984, 29:11, 871-878) reported sucrose non-PTS of streptococcal bacteria.

One person skilled in the art can easily obtain genes of the above sucrose non-PTS by conventional methods. These genes are considered to have the same functional property as the genes of Bockmann et al. Further, one skilled in the art can easily test whether these genes can function in a bacterium belonging to the genus *Escherichia* by introducing the genes in sucrose-negative strains of a bacterium belonging to the genus *Escherichia*, for example, *E. coli* K-12 and examining an ability to utilize sucrose. Such a method is well-known to those skilled in the art.

Therefore, even though the specific sequences of genes of non-PTS systems described above are not disclosed in the specification of the present application, one skilled in the art can obtain and use these genes according to the description of the specification based on the state of the art, because these genes have same functional property as the genes of Bockmann et al.

Based on the foregoing, withdrawal of this ground of rejection is respectfully requested.

Applicants also submit a copy of U.S. patent No. 5,972,663. That patent relates to the use of efflux genes, and claims "Microorganism strain . . . overexpressing at least one gene which encodes a protein which is directly suitable for secreting an antibiotic, or other substances which are toxic for the microorganism, out of a cell; ...". While the Summary of the Invention of the patent specification mentions *emr* locus, *acr* locus, *cmr* locus, *mex* genes, *bmr* gene, and *gacA* gene as the efflux genes, the Example Section contains data only for *mar*

locus. However, the claims of the patent appear to embrace all proteins directly suitable for secreting toxic substances. Since claims of such broad scope were granted in that patent, the pending claims should be granted in the present application.

The rejection of Claims 4-7 under 35 U.S.C. §112, second paragraph, is believed to be obviated by the amendment submitted above. In Claim 4, the term "sucrose non-PTS genes" has been amended to specify --comprising at least genes coding for a permease, invertase and fructokinase--. That recitation is described in the specification at page 7, lines 25-26.

Regarding the difference between a "proton symport transport system" and "permease," those two are the same, as described in the specification at page 7, lines 22-23 and page 4, lines 13-14.

In view of the foregoing, the claims are definite. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 1-4 under 35 U.S.C. §101 is believed to be obviated by the amendment submitted above. The claims have been amended to recite "isolated." Accordingly, withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

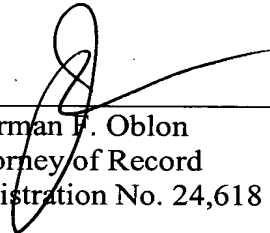
Respectfully submitted,

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